3.9 SAFETY/HAZARDS/RISK OF UPSET

This section discusses issues of safety, hazards, and risk that may affect public health and safety, specifically the risks of explosion or release of hazardous materials, exposure to existing or creation of new risks, and the risk of spills. Potential risks to marine wildlife are addressed in Section 3.4.

3.9.1 Environmental Setting

The health and safety of workers (i.e., occupational) and the general public are potentially at risk of exposure whenever hazardous materials are used. Hazardous materials are defined as all flammable, reactive, corrosive, or toxic substances which, when placed in contact with the environment, can adversely affect living organisms. The "hazards" represented by these materials are considered distinct from the "risk" they pose to human health. A hazard is any situation that has the potential to cause damage to human health and the environment. The risk to human health is determined by the theoretical probability of exposure to hazardous material, and the degree of severity of harm such exposure would pose.

The wells on the 4H Platforms were shut-in prior to September 1992. All of the platforms, except for four caissons at the Platform Hazel site, were removed in 1996. The 4H shell mound sites have remained unused and largely intact since that time. The shell mounds appear relatively resistant to disturbance by natural processes and by the fishing activities and scientific studies that have occurred since the platforms were removed.

No evidence that contaminants are leaching from the mounds has been detected (see Section 3.2.4.5). Analysis of chemistry toxicity and bioaccumulation data did not indicate consistent differences between shell mound and reference site invertebrates or fish organisms with respect to the magnitude of known shell mound-related contaminants that have the greatest potentials for bioaccumulation (see Section 3.2.1.3).

At this time, the primary potential hazard to human safety associated with the shell mounds and Hazel caissons is the tendency for trawl nets to become entangled in debris on the mounds or on the remnant platform legs at the Hazel site. This hazard to commercial fishing operations is addressed in Section 3.5.

3.9.2 Regulatory Setting

State and local agencies with hazardous material responsibilities for the project vicinity include the U.S. Coast Guard (USCG), the California Department of Fish and Game (CDFG), and Santa Barbara County (emergency response and evacuation). Applicable regulations include the Clean Water Act (section 311[c][2]) and the Shipboard Oil Pollution Emergency Procedure. Project activities must comply with all applicable state and local agency regulations and guidelines.

3.9.3 Significance Criteria

Criteria used to determine if identified impacts are significant and adverse were developed through a review of the State CEQA Guidelines, Environmental Checklist Form. For the purpose of this analysis, an impact would be significant effect if it would result in:

- Risk of accidental explosion or release of hazardous substances;
- Interference with an emergency response plan or emergency evacuation plan;
- Exposure of persons to existing potential health hazards; or
- Creation of health hazards or potential health hazards.

3.9.4 Impacts and Mitigation Measures

This section discusses the potential for project-related activities to affect public health and safety, specifically including the use of hazardous materials, explosives, and the risk of spills. Potential risks to marine habitat and wildlife are addressed in Sections 3.3 and 3.4.

3.9.4.1 Program Alternative 1 (PA1): Shell Mounds and Caisson Removal and Disposal

Program Alternative	*Impact #*	*Impact Description*	*Region/Location*	*Class*
PA1	**HAZ-1**	Vessels and equipment operated under PA1 could cause diesel fuel, oil, or lubricant leaks or spills. This could constitute a significant impact related to the release of hazardous substances.	Offshore Santa Barbara County (shell mound sites). This impact could affect water quality anywhere in the shell mounds area or along barge or other vessel routes between the shell mound sites and Port Hueneme, the POLB, or the LA-2 ocean disposal site.	II

Impacts

Shell mound removal would require the use of vessels and equipment powered by diesel fuel and lubricated with oil and other mechanical fluids, which are considered hazardous substances. Accidental releases of such substances (e.g., spills arising from leakage of fuel, motor oil, or hydraulic fluid during operation and/or equipment maintenance) could occur. All vessels and equipment would carry supplies of fuel and other mechanical fluids only in the quantities needed for their operation. The use of

licensed, trained personnel for the safe operation of vessels, vehicles, and equipment required for PA1, and performance of a regular, comprehensive program of maintenance, would further reduce the potential for an accident to occur. Nonetheless, operation of these vessels, vehicles and equipment could result in potentially significant impacts related to release of hazardous substances and creation of a health hazard, which could affect public health and safety.

If shell mound materials and caisson debris are disposed of onshore at an approved recycling facility or one or more permitted landfills, transport and disposal activities would require the use of trucks between the POLB's offloading facilities and the disposal sites. The risk of upset associated with a potential accidental release of hazardous substances would be less than significant.

MITIGATION MEASURE FOR IMPACT HAZ-1

HAZ-1a *The dredging contractor shall have in place, prior to beginning operations, an approved, project-specific oil spill contingency plan addressing spill prevention and spill response measures for any accidental release of hydrocarbons. The plan shall identify key points of contact, vessels and equipment to be used in the project, contractors, schedules, and procedures. The plan shall be prepared and submitted to the CSLC for approval.*

RESIDUAL IMPACT

Residual impacts following implementation of MM HAZ-1a would be less than significant (Class III).

Program Alternative	*Impact #*	*Impact Description*	*Region/Location*	*Class*
PA1	**HAZ-2**	The release of diesel fuel, oil, or lubricant leaks or spills could result in a significant impact related to the creation of a potential health hazard and affect public health and safety.	Offshore Santa Barbara County (shell mound sites). This impact could affect water quality anywhere in the shell mounds area or along barge or other vessel routes between the shell mound sites and Port Hueneme, the POLB, or the LA-2 ocean disposal site.	II

Impacts

The USCG and local emergency response agencies have response plans and regulatory programs in place to contain and clean up potential fuel spills. Nonetheless,

vessel and equipment fuel and lubricant leaks or spills could create potential health hazards and affect public health and safety.

MITIGATION MEASURE FOR IMPACT HAZ-2

HAZ-2a *All oceangoing vessels shall maintain, throughout operations, emergency response plans, equipment, and supplies for implementation in the event of a spill, in compliance with State and federal regulations. The emergency response plans shall and shall identify key points of contact, vessels and equipment to be used in the project, contractors, schedules, and procedures. The plan shall be prepared and submitted to the CSLC for approval.*

RESIDUAL IMPACT

Residual impacts following implementation of MM HAZ-2a would be less than significant (Class III).

Program Alternative	*Impact #*	*Impact Description*	*Region/Location*	*Class*
PA1	**HAZ-3**	The use of explosives to demolish the Platform Hazel caissons prior to removal and disposal could result in the creation of a potential safety hazard.	Offshore Santa Barbara County (shell mound sites).	II

Impacts

Removal of the Platform Hazel caissons would require the use of explosives before recovering and transporting the salvaged material to shore for disposal. Transportation of explosives would be conducted in accordance with U.S. Department of Transportation (DOT) and USCG requirements. Nonetheless, PA1 could result in potentially significant impacts associated with the creation of a potential safety hazard.

MITIGATION MEASURES FOR IMPACT HAZ-3

HAZ-3a *In the event that explosives are used to demolish the Hazel caissons, the CSLC shall require the preparation and implementation of a detailed Human Health and Safety Plan, incorporating all relevant permit conditions from the regulatory agencies, as well as all of the elements discussed in this section. The plan shall be prepared and submitted to the CSLC for approval. The plan shall identify key points of contact, vessels and equipment to be used in the project, contractors, schedules, and procedures. The plan shall incorporate the following elements:*

HAZ-3a1 *The demolition contractor shall have an approved, project-specific explosive transportation and operations plan describing guidelines that would be implemented to safeguard personnel and prevent property damage. Safe practices, warnings, and procedures delineated in the plan shall be based on the applicable federal, state, and local laws and regulations. All required*

safety equipment shall be on hand and used as required. The contractor shall possess all applicable required licenses prior to handling, storage, and transport of the explosives. If, at any time, personnel or equipment are in danger, the operation shall be secured until the danger is eliminated or removed.

HAZ-3a2 *Prior to any use of explosives, all personnel required to be in the vicinity shall be briefed on the procedures and requirements outlined in an explosives transportation and operation plan.*

HAZ-3a3 *Each explosive device shall be properly packaged for shipment and secured in an approved offshore box/storage magazine. Once the magazine is properly packaged and secured, it shall be loaded onto and secured in place on a DOT-approved truck for transport to an approved loading dock. The packaged explosives shall be staged at an appropriate onshore location until the scheduled date of demolition.*

RESIDUAL IMPACT

Residual impacts following implementation of MMs HAZ-3a through -3a3 would be less than significant (Class III).

Program Alternative	*Impact #*	*Impact Description*	*Region/Location*	*Class*
PA1	**HAZ-4**	The performance of underwater tasks necessary for removal of the Platform Hazel caissons could expose divers to safety hazards.	Offshore Santa Barbara County (shell mound sites).	II

Impacts

Divers would be needed to execute underwater tasks such as jetting, airlifting, cutting and attaching explosives to the remnant caissons. Diving involves unique risks and hazards, and winter ocean conditions are often hazardous due to the potential for high waves and strong winds. All diving operations would be conducted using surface-supplied air diving techniques in accordance with the Occupational Safety and Health Administration (OSHA) and USCG commercial diving standards. All underwater work procedures necessary to perform these underwater tasks have been used by commercial divers for decades and are routinely performed. Nonetheless, the performance of these tasks could expose divers to safety hazards.

MITIGATION MEASURE FOR IMPACT HAZ-4

HAZ-4a *Ocean conditions shall be taken into consideration during both diving and marine vessel operations for all portions of the project. The dive supervisor and the barge master on the dive service vessel shall be responsible for determining safe weather operating ranges for all diving conditions.*

RESIDUAL IMPACT

Residual impacts following implementation of MM HAZ-4a would be less than significant (Class III).

Program Alternative	*Impact #*	*Impact Description*	*Region/Location*	*Class*
PA1	**HAZ-5**	Post-detonation fumes associated with underwater explosions could pose a health risk for workers in nearby vessels.	Offshore Santa Barbara County (former Platform Hazel site).	III

Impacts

Post-detonation fumes associated with the demolition of Hazel caissons could pose a health risk for divers and other workers or the general public on vessels in the vicinity of the former Platform Hazel site. As noted in Section 2.2.2.2, the work vessel moving off the detonation site on its moorings when the charges are about to be fired would minimize this risk. The coastal breeze is expected to clear the air quickly in the nearshore environment, and individuals on shore would not be at risk of exposure.

MITIGATION MEASURE FOR IMPACT HAZ-5

HAZ-5a *Post-detonation fumes shall be allowed to clear before vessels are allowed to re-enter the former Platform Hazel area.*

RESIDUAL IMPACT

Residual impacts following implementation of MM HAZ-5a would be less than significant (Class III).

3.9.4.2 Program Alternative 2 (PA2): Leveling and Spreading of Shell Mounds with Caissons Removal and Disposal

Impacts

PA2 would have the same impacts identified for PA1 and the corresponding mitigation measures would also apply.

MITIGATION MEASURES

MMs HAZ-1a, **HAZ-2a**, **HAZ-3a through -3a3**, **HAZ-4a**, and **HAZ-5a** would apply to PA2.

3.9.4.3 Program Alternative 3 (PA3): Capping

Impacts

PA3 would result in impacts HAZ-1 and HAZ-2, already identified under PA1.

MITIGATION MEASURES

MMs HAZ-1a and **HAZ-2a** would apply to PA3.

3.9.4.4 Program Alternative 4 (PA4): Artificial Reefs at all Four Shell Mounds

Impacts

PA4 would result in impacts HAZ-1 and HAZ-2, already identified under PA1.

MITIGATION MEASURES

MMs HAZ-1a and **HAZ-2a** would apply to PA4.

3.9.4.5 Program Alternative 5: Artificial Reef at Hazel after Removing (5a) or Spreading (5b) Shell Mounds

Program Alternative 5a (PA5a): Artificial Reef at Hazel Site plus Removal and Disposal of Shell Mounds

Impacts

PA5a would involve some of the same components as PA1 and PA4, and would result in impacts HAZ-1 and HAZ-2, already identified under PA1.

MITIGATION MEASURES

MMs HAZ-1a and **HAZ-2a** would apply to PA5a.

Program Alternative 5b (PA5b): Artificial Reef at Hazel Site plus Leveling and Spreading Shell Mounds

Impacts

PA5b would involve some of the same components as PA2 and PA4, and would result in impacts HAZ-1 and HAZ-2.

MITIGATION MEASURES

MMs HAZ-1a and **HAZ-2a** would apply to PA5b.

3.9.4.6 Program Alternative 6 (PA6): Offsite Mitigation

Impacts

Under PA6, proposed mitigation of shell mound impacts would be accomplished through off-site habitat enhancement (e.g., at the Carpinteria Salt Marsh). The impacts and applicable mitigation measures are described in the Final EIR for the Carpinteria

Salt Marsh Enhancement Plan (SBCFCWCD 2003, SCH 2003021016). Impacts were found to be mitigable to less than significant.

MITIGATION MEASURES

None proposed.

3.9.4.7 No Project Alternative

Impacts

The No Project Alternative would not result in any safety, hazard, or risk of upset impacts.

MITIGATION MEASURES

None proposed.

Table 3.9-1. Summary Matrix of Potential Safety/Hazard/Risk of Upset Impacts Associated with Program Alternatives

Program Alternative	*Impact #*	*Potential Impact*	*Impact Class*	*Mitigation Measures*
PA1	HAZ-1	Vessels and equipment could cause release of hazardous substances, including diesel fuel, oil, or lubricant leaks or spills.	II	*MM HAZ-1a. Oil spill contingency plan approved by CSLC. To address spill prevention, spill response measures for accidental hydrocarbon release. Will identify key points of contact, vessels and equipment, contractors, schedules, and procedures.*
	HAZ-2	Release of diesel fuel, oil, or lubricant leaks or spills could create potential health hazard, affect public health and safety.	II	*MM HAZ-2a. Vessel emergency response plans approved by CSLC, identifying equipment, and supplies for use in the event of a spill. Plans to identify key points of contact, vessels and equipment, contractors, schedules, and procedures.*

Table 3.9-1. Summary Matrix of Potential Safety/Hazard/Risk of Upset Impacts Associated with Program Alternatives (continued)

Program Alternative	*Impact #*	*Potential Impact*	*Impact Class*	*Mitigation Measures*
PA1	HAZ-3	Use of explosives to demolish Platform Hazel caissons could create a potential safety hazard.	II	*MM HAZ-3a. Human Health and Safety Plan, approved by CSLC, to incorporate relevant permit conditions, all of the elements discussed in this section. Plan to identify key points of contact, vessels and equipment, contractors, schedules, and procedures. To incorporate the following:* *MM HAZ-3a1. Demolition contractor to have approved explosive transportation and operations identifying safe practices, warnings, and procedures.* *MM HAZ-3a2. All personnel to be briefed on procedures and requirements in explosives transportation and operation plan.* *MM HAZ-3a3. Explosive devices to be properly packaged for shipment, staged in approved offshore magazine until demolition, loaded and secured on a DOT-approved truck for transport to loading dock.*
	HAZ-4	Underwater tasks necessary for removal of Hazel caissons could expose divers to safety hazards.	II	*MM HAZ-4a. Ocean conditions to be taken into consideration during both diving, marine vessel operations. Dive supervisor, dive vessel barge master responsible for determining safe weather-related diving conditions.*
	HAZ-5	Post-detonation fumes associated with underwater explosions could cause health risk for workers in nearby vessels.	III	*MM HAZ-5a. Post-detonation fumes to clear before into former Platform Hazel area.*
PA2		See HAZ-1 through HAZ-5	II	*See MMS HAZ-1a, HAZ-2a, HAZ-3a through -3a3, HAZ-4a, and HAZ-5a.*
PA3		See HAZ-1 and HAZ-2	II	*See MMs HAZ-1a and HAZ-2a*
PA4		See HAZ-1 and HAZ-2	II	*See MMs HAZ-1a and HAZ-2a*
PA5a		See HAZ-1 and HAZ-2	II	*See MMs HAZ-1a and HAZ-2a*
PA5b		See HAZ-1 and HAZ-2	II	*See MMs HAZ-1a and HAZ-2a*